

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Work Order ID 140392

Wednesday, December 23, 2015 12:40:05 P

140392

Page 2

Item ID: D412-758-015

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: GPS Receiver Gimbal Mount

Start Date: 12/23/2015 Start Qty: 2.00

2

Cust Item ID:

Required Date: 1/8/2016 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Packaging	0.00							
120									
Packaging	Memo	0.00				2		DAS 28 9-99	JAN 25 2016
Packaging	Identify and pack for shipping as per PPP D412-758-015 Location: FG023								
130	QC21- Final Inspection - Work Order Release	0.00							
130									
QC	Memo	0.00				MUS		JAN 26 2016	
Quality Control									

5020160125

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

Wednesday, December 23, 2015 12:40:10 PM

Page 1

Work Order ID: 140392

140392

Parent Item: D412-758-015

D412-758-015

Parent Item Name: GPS Receiver Gimbal Mount

Start Date: 12/23/2015

Required Date: 1/8/2016

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP rev:A 10.06.21 new issue DD verified by:EC
12.10.24 ECN 12-669 DD VERF:JLM

IPP REV:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN525-10R9 Screw		Purchased	No			110	Each	18.0000	3	6			
AN525-10R9									**				
	DAS 28 9-89			<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>		DAS 6 9-89	
				ST329				18					
				m127703				18					
D3531-041 Top Mounted Gps Bracket		Manufactured	No			110	Each	2.0000	1	2			
D3531-041									**				
	DAS 28 9-89			<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>		DAS 6 9-89	
				st503				2					
				117242				2					
D2464 Neoprene Seal (\$per foot)		Manufactured	No			110	f	791.6600	1.05	2.210526			
D2464									**				
	DAS 28 9-89			<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>		DAS 6 9-89	
				ST409				791.66					
				121946				791.66					
cut qty of 2 at 6.6" as per dwg D2464-0066 ***per kit***													
D3525-1 Placard		Manufactured	No			110	Each	0.0000	1	2			
D3525-1									**				
	DAS 28 9-89									140393			
												DAS 6 9-89	

JAN 22 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

Wednesday, December 23, 2015 12:40:11 PM

Page 2

Work Order ID: 140392

140392

Parent Item: D412-758-015

D412-758-015

Parent Item Name: GPS Receiver Gimbal Mount

Start Date: 12/23/2015

Required Date: 1/8/2016

Start Qty: 2.00

Required Qty: 2.00

D3645-1 Manufactured No

110 Each 103.0000 4 8

D3645-1

Washer

**

DAS
6
9-89

DAS
27
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

ST048

103

123144

100

95256

3

AN525-10R10

Purchased No

110 Each 112.0000 4 8

AN525-10R10

Screw

**

DAS
6
9-89

DAS
27
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

ST329

112

M126175

112

NAS1149DN632J

Purchased No

110 Each 189.0000 4 8

NAS1149DN632.J

Washer

**

DAS
6
9-89

DAS
27
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

ST265

189

m133860

189

NAS1149D0363J

Purchased No

110 Each 814.0000 7 14

NAS1149D0363.J

Washer

**

DAS
6
9-89

DAS
27
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

GA

114

m130799

114

ST263

700

m133709

200

m133790

500

JAN 22 2016

Wednesday, December 23, 2015 12:40:11 PM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Picklist Print

Wednesday, December 23, 2015 12:40:11 PM

Page 3

Work Order ID: 140392

Parent Item: D412-758-015

Parent Item Name: GPS Receiver Gimbal Mount

140392

D412-758-015

Start Date: 12/23/2015

Required Date: 1/8/2016

Start Qty: 2.00

Required Qty: 2.00

MS21042L06

Purchased

No

110

Each

88.0000

4

8

MS21042L06

Nut

**

DAS 27
6 9-89

Location

Loc Qty

Loc Code

ST303

82

m132803

1

m133363

81

ST305

6

m130325

3

m131317

3

DAS
28
9-89

MS24693-S29

Purchased

No

110

Each

48.0000

4

8

MS24693-S29

SCREW

**

DAS 27
6 9-89

Location

Loc Qty

Loc Code

ST286

48

m126400

48

RAM-B-201U-A

Purchased

No

110

Each

6.0000

2

4

RAM-B-201U-A

SOCKET ARM, 1.75"

**

DAS 27
6 9-89

Location

Loc Qty

Loc Code

ST559

6

m130117

6

RAM-B-202U

Purchased

No

110

Each

10.0000

2

4

RAM-B-202U

Round Plate Mount, Single 1" Ball

**

DAS 27
6 9-89

Location

Loc Qty

Loc Code

ST558

10

m129316

10

DAS
28
9-89

JAN 22 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		☐ OTHER : _____							

Picklist Print

Wednesday, December 23, 2015 12:40:11 PM

Page 4

Work Order ID: 140392

Parent Item: D412-758-015

Parent Item Name: GPS Receiver Gimbal Mount

140392

D412-758-015

Start Date: 12/23/2015

Required Date: 1/8/2016

Start Qty: 2.00

Required Qty: 2.00

RAM-B-217U

Purchased No

110 Each

9.0000

1

2

RAM-B-217U

ROUND PLATE MOUNT, DUAL 1" BALL

**

DAS
6
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

ST558

9

m129308

3

m129792

6

2

MS21042L3

Purchased No

110 Each

1,662.000

3

6

MS21042L3

Nut

**

DAS
6
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

FP001

185

m133790

185

GA

229

m133790

229

ST304

1248

m133790

1248

6

JAN 22 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER :						
Misidentified ☐	☐	Past Due ☐							

REFERENCE ONLY

DAS
28
9-89

5.0 PARTS LIST

QTY -011	QTY -013	QTY -015	Part Number	Description
X			D412-758-011	Bottom Mounted GPS Receiver Gimbal Mount
	X		D412-758-013	Top Mounted GPS Receiver Gimbal Mount
		X	D412-758-015	GPSMAP Top Mounted GPS Receiver Gimbal Mount
1			D3514-041	Bottom Mounted Gimbal Assembly
	1		D3514-043	Top Mounted Gimbal Assembly
		1	D3531-041	Bracket Assy.
	2	2	D2464-0066	Neoprene Seal
1	1	1	D3525-1	Placard
1			D3527-1	Support Arm
1			D3530-1	Base Plate
1			D3530-3	Mounting Plate
1	1		D3534-1	Doubler
	4	4	D3645-1	Washer
		3	AN525-10R9	Screw
	4	4	AN525-10R10	Screw
3			AN526-632R7	Screw (or MS35206-229)
3		4	NAS1149DN632J	Washer (Alternate p/n AN960JD6)
2	4	7	NAS1149D0363J	Washer (Alternate p/n AN960JD10)
3		4	MS21042L06	Nut
1		3	MS21042L3	Nut
4	4		MS24693-S27	Screw
1			MS27039-1-09	Screw
		4	MS24693-S29	Screw
		2	RAM-B-201U-A	Socket Arm, 1.75"
		2	RAM-B-202U	Round Plate Mount, Single 1" Ball
		1	RAM-B-217U	Round Plate Mount, Dual 1" Ball

• COPYRIGHT © 2010 BY DART AEROSPACE LTD •

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

Revision: D
Date: 12.08.10